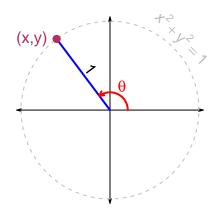
## Unit-circle trigonometry cheat sheet



## Definitions

$$\sin(\theta) = y$$
  $\cos(\theta) = x$ 

$$cos(\theta) = x$$
  $tan(\theta) = \frac{y}{x} = \frac{sin(\theta)}{cos(\theta)} = slope$ 

## Pythagorean Identities

$$\sin^2(\theta) + \cos^2(\theta) = 1 \qquad \qquad |\sin(\theta)|$$

$$|\sin(\theta)| = \sqrt{1 - \cos^2(\theta)}$$
  $|\cos(\theta)| = \sqrt{1 - \sin^2(\theta)}$ 

$$\tan^2(\theta) + 1 = \frac{1}{\cos^2(\theta)}$$

$$|\tan(\theta)| = \sqrt{\frac{1 - \cos^2(\theta)}{\cos^2(\theta)}}$$

$$\tan^2(\theta) + 1 = \frac{1}{\cos^2(\theta)} \qquad |\tan(\theta)| = \sqrt{\frac{1 - \cos^2(\theta)}{\cos^2(\theta)}} \qquad |\cos(\theta)| = \sqrt{\frac{1}{\tan^2(\theta) + 1}}$$

$$\tan^2(\theta) + 1 = \frac{1}{1 - \sin^2(\theta)}$$

$$|\tan(\theta)| = \sqrt{\frac{\sin^2(\theta)}{1 - \sin^2(\theta)}}$$

$$\tan^2(\theta) + 1 = \frac{1}{1 - \sin^2(\theta)} \qquad |\tan(\theta)| = \sqrt{\frac{\sin^2(\theta)}{1 - \sin^2(\theta)}} \qquad |\sin(\theta)| = \sqrt{\frac{\tan^2(\theta)}{\tan^2(\theta) + 1}}$$